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IS 11573 (1986): Polyamide Yarn for Cycle and Rickshaw Tyres [TXD 33: Industrial Fabrics]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard
SPECIFICATION FOR
POLYAMIDE YARN FOR CYCLE AND
RICKSHAW TYRES

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR POLYAMIDE YARN FOR CYCLE AND RICKSHAW TYRES

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(Continued on page 2)

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(Continued from page 1)

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Indian Standard
SPECIFICATION FOR
POLYAMIDE YARN FOR CYCLE AND
RICKSHAW TYRES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 10 March 1986, after the draft finalized by the Industrial Textiles Sectional Committee had been approved by the Textile Division Council.

0.2 In view of the wide usage of polyamide tyre yarn by the cycle and rickshaw tyre manufacturing industry, an urgent need was felt for formulating an Indian Standard on this subject and keeping this in view the present standard has been prepared. It is hoped that this will help in regulating the quality of polyamide tyre yarns.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements of polyamide tyre yarn for cycle and rickshaw tyres.

2. TERMINOLOGY

2.1 Tyre Yarn — A yarn used as a structural reinforcement of cycle and rickshaw tyres.

3. MANUFACTURE

3.1 Yarn shall be made out of continuous polyamide filament. The nominal tex (denier) of the polyamide filament used shall be as given in Table 1. The yarn shall be well and evenly twisted and shall be reasonably free from defects, such as knots, slubs and projections that would affect the serviceability of the yarn.

*Rules for rounding off numerical values (revised).

TABLE 1 REQUIREMENTS OF POLYAMIDE TYRE YARN FOR CYCLE AND RICKSHAW TYRE(*Clauses 3.1 and 4.1*)

Sl No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST
(1)	(2)	(3)	(4)
i)	Tex (denier)	102 (918) \pm 4 percent	IS : 4910 (Part 1) - 1968*
ii)	Twist per metre (single ply) Tolerance	200-300 \pm 15 for any particular twist value in the above range	IS : 832-1985†
iii)	Breaking strength <i>Min</i> , N	65	IS : 4910 (Part 2) - 1968‡
iv) a)	Elongation at break, percent, <i>Min</i>	16	do
b)	Elongation percent, at 45 N	11.5 \pm 1.5 percent	do

NOTE — 1N = 0.102 kgf approximately.

*Methods of test for tyre yarns, cords and tyre cord fabrics made from man-made fibres: Part 1 Linear density.

†Methods for determination of twist in yarn (*first revision*).

‡Methods of test for tyre yarns, cords and tyre cord fabrics made from man-made fibres: Part 2 Breaking load, elongation at break and tenacity.

4. REQUIREMENTS**4.1** The requirements of polyamide yarn shall be as given in Table 1.**5. MARKING****5.1** Each package containing polyamide yarn for cycle and rickshaw tyre shall be accompanied by a label stating the following:

- Name of the material (in code no., if any);
- Manufacturer's name, initials or trade-mark, if any;
- Net mass; and
- Date of manufacture.

5.2 Each package of polyamide yarn may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. PACKING

6.1 The bobbins, cheeses or cones of polyamide yarn for cycle and rickshaw tyre shall be packed in cartons as agreed to between the buyer and the seller.

7. SAMPLING AND CRITERIA FOR CONFORMITY

7.1 The sampling and criteria for conformity of tyre yarn shall be as prescribed in IS : 4910 (Part 12)-1981*.

*Methods of test for tyre yarns, cords and tyre cord fabrics made from man-made fibres: Part 12 Sampling for tyre yarns, cords and tyre cord fabrics made from polyamide.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	$1 \text{ N} = 1 \text{ kg.m/s}^2$
Energy	joule	J	$1 \text{ J} = 1 \text{ N.m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J/s}$
Flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V.s}$
Flux density	tesla	T	$1 \text{ T} = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s (s}^{-1}\text{)}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A/V}$
Electromotive force	volt	V	$1 \text{ V} = 1 \text{ W/A}$
Pressure, stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ N/m}^2$